

Application No. 09/558,266

REMARKS

Claims 1, 4-16 and 41-53 are pending. The specification has been updated with respect to a copending application that has subsequently issued. Claim 16 has been amended to correct a grammatical issue, specifically to delete an unnecessary comma. Applicants do not intend to narrow claim 16 by this amendment. No new matter is introduced by the amendments.

In response to Applicants' Appeal Brief of July 7, 2003, the previous rejections have been withdrawn, and the Examiner has reopened prosecution based on new rejections. Applicants acknowledge with appreciation that claims 4-7, 11, 13 and 51-52 are free of the cited references. Claims 1, 8-10, 12, 14-16, 41-50 and 53 stand rejected. Applicants respectfully request reconsideration of the pending rejections based on the following comments.

Rejection Over DeGuire et al.

The Examiner rejected claims 1, 8-10, 12 and 14 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 5,352,485 to DeGuire et al. (the DeGuire patent). The Examiner cited the DeGuire patent for disclosing an inorganic layer comprising self-assembled monolayers. The Examiner asserted "[a]lthough DeGuire does not explicitly disclose inorganic particles, it would have been obvious to one of ordinary skill in the art to recognize DeGuire obtains inorganic particles because the reference comprises an inorganic layer." With all due respect, the Examiner's assertions have clear flaws, as explained in detail below. Since the DeGuire patent does not teach or suggest self-assembled structures as claimed, the reference does not render Applicants' claimed invention prima facie obvious. Applicants respectfully request reconsideration of the rejection based on the following comments.

First, the DeGuire patent does not teach or suggest particles. As described in the title, abstract and throughout, the DeGuire patent is directed to "films." Films are extended 2-dimensional structures. See column 3, lines 67-68. While the Examiner acknowledges that the

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DeGuire patent does not teach particles, the Examiner asserts without any support that films render particles obvious. The DeGuire patent describes the formation of the titanium oxide films in association with a surface. See Fig. 2 and corresponding description. Since the metal oxides are directly formed in association with a surface resulting in a film along the surface, the DeGuire patent teaches away from particles, which necessarily have different geometry from a surface. Furthermore, the DeGuire patent clearly does not motivate particles.

In addition, the DeGuire patent clearly does not describe "a plurality of self-assembled structures comprising compositions, wherein the structures are localized in separate, selected locations covering a portion of the layer in an integrated assembly," as claimed by Applicants in claim 1 and corresponding dependent claims. The Examiner does not even assert that the reference teaches a plurality of self-assembled structures. Therefore, the Examiner has not even asserted anything close to a prime facie case of obviousness.

In summary, the DeGuire patent has fundamental shortcomings with respect to teaching, suggesting, or motivating Applicants' claimed invention. Thus, the DeGuire patent falls far, far short of rendering Applicants' claimed invention prima facie obvious. Applicants respectfully, request withdrawal of the rejection of claims 1, 8-10, 12 and 14 under 35 U.S.C. § 103(a) as being unpatentable over the DeGuire patent.

Rejections Over Alivisatos et al.

upheld
The Examiner rejected claims 15, 16, 41-50 and 53 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 5,751,018 to Alivisatos et al. (the Alivisatos patent). The Examiner cited the Alivisatos patent for disclosing self-assembled bifunctional organic monolayers as bridge compounds exposed to solutions of nanocrystals. The Examiner noted that the Alivisatos patent discloses inorganic surfaces such as metals and oxides. However, Applicants assert that the Examiner has fallen far short of demonstrating prima facie obviousness

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since the Alivisatos patent does not teach or suggest the particular inorganic particles claimed by Applicants. Applicants respectfully request reconsideration of the rejection based on the following comments.

The Alivisatos patent teaches cadmium sulfide particles and similar particles (column 9, lines 49-54) bound to a surface. The Alivisatos patent does not teach or suggest particles comprising metal/silicon oxides, metal/silicon carbides, metal/silicon nitrides or elemental metal. See, column 3, lines 49-54 and column 4, lines 34-36. The Examiner notes that the Alivisatos patent describes substrates of metals and metal oxides, but the substrates are not the self-assembled particles on a substrate. The composition of the substrate does not render the composition of the particles obvious since [they serve different roles in the structure.] Since the Alivisatos patent does not teach or suggest self-assembled structures with particles comprising metal/silicon oxides, metal/silicon carbides, metal/silicon nitrides or elemental metal, the Alivisatos patent does not render Applicants' claimed invention prima facie obvious. Applicants respectfully request withdrawal of the rejection of claims 15, 16, 41-50 and 53 under 35 U.S.C. § 103(a) as being unpatentable over the Alivisatos patent.


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CONCLUSIONS

In view of the foregoing, it is submitted that this application is in condition for allowance. Favorable consideration and prompt allowance of the application are respectfully requested.

The Examiner is invited to telephone the undersigned if the Examiner believes it would be useful to advance prosecution.

Respectfully submitted,



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